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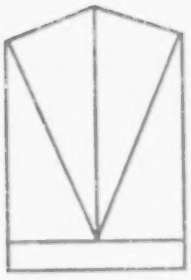
SPECIAL REPORT



SHIPBUILDING AID IN THE WORLD'S LEADING SHIP-PRODUCING NATIONS

OCTOBER 1988

SHIPS ON ORDER AT THE WORLD'S TOP-PRODUCING SHIPBUILDING CENTERS AND TYPES OF SUPPORT PROVIDED FOR SHIPYARDS IN THESE NATIONS

Which countries are building the most number of ships today and how does each of these countries support its shipbuilding industry? Is there a link between active government support of shipyards and the ability to be competitive in the world marketplace?

Statistics for the number and origin of ships currently on order throughout the world provide a base for exploring answers to these questions. Ships on order in 33 countries were listed in the July 21 issue of Fairplay. For our purposes, we have limited the list to the 17 countries with the most orders.

SHIPS ON ORDER BY COUNTRY OF BUILD, APRIL-JUNE 1988

Country	No.of Ships	Country	No.of Ships	Country	No.of Ships
1. Japan	165	6. West Germany	43	12. Denmark	26
2. S. Korea	135	7. Bulgaria*	42	13. Netherlands	23
3. Poland*	50	8. Romania*	38	East Germany*	23
4. China*	48	9. Brazil	35	14. Finland	22
5. Yugoslavia*	46	10. Spain	32	15. USSR*	20
		11. Italy	30	16. Taiwan	16

* Govt.-controlled

Seven of the top seventeen ship-producing countries listed above have communist governments with centrally planned economies that control their maritime industries. The ten remaining "free-world" countries are building the following kinds of ships:

TOTAL ORDERS BY SHIP TYPE FOR COUNTRY OF BUILD, APRIL-JUNE 1988

	Type of Ship:						
Country	Dry Cargo	Container	Tanker	Bulker	Ro-Ro	Total	dwt
1. Japan	32	11	67	51	4	165	9,932,956
2. S. Korea	12	13	73	33	4	135	12,536,780
3. W. Germany	14	20	5	-	4	43	879,765
4. Brazil*	2	2	21	5	5	35	1,345,250
5. Spain	14	-	16	1	1	32	1,196,570
6. Denmark	8	8	9	-	1	26	733,630
7. Netherlands	8	-	12	-	3	23	74,975
8. Finland*	11	-	10	-	1	22	84,100
9. Italy*	6	8	8	4	4	30	1,033,510
10. Taiwan	-	8	2	6	-	16	1,502,800

* No new contracts during the quarter

The next table is a comparison between total orders and orders placed during the quarter.

SHIPS ON ORDER BY COUNTRY OF BUILD, APRIL-JUNE 1988
TOTAL ORDERS AND NEW CONTRACTS FOR PERIOD

Country	Total on Order		Total New Contracts	
	Ships	dwt	Ships	dwt
Japan	165	9,932,956	46	2,298,938
S. Korea	135	12,536,780	21	1,557,650
W. Germany	43	879,765	12	255,700
Brazil	35	1,345,250		
Spain	32	1,196,570	2	127,000
Denmark	26	733,630	4	12,200
Netherlands	23	74,975	12	37,175
Finland	22	84,100		
Italy	30	1,033,510		
Taiwan	16	1,502,800	4	275,260

How many of the free-world's top-ten ship-producing nations listed above have aid programs that directly or indirectly assist their shipyards? The answer: ALL of them. This report quantifies these measures of assistance.

The following quote is taken from the Introduction to Maritime Subsidies, a report prepared by the Maritime Administration's (MARAD's) Office of International Activities and published in June 1988. The report is intended as a reference volume on the kinds of aid provided by 54 countries for their respective maritime industries--shipping and shipbuilding.

"A national merchant fleet is believed to be of vital economic and security interest by many of the world's governments. In order to ensure that these interests are upheld, many governments have developed aid programs to support their maritime industries."

The MARAD volume is the primary source for the subsidy information contained in this report, supplemented by Measures of Assistance to Shipbuilding, published by the Organization for Economic Cooperation and Development (OECD), 1987, and miscellaneous other sources.

The kinds of aid countries provide to enhance the ability of their shipyards to successfully compete for shipbuilding contracts varies, but usually includes one or more of the following:

- Long-term, low-interest loans to ship buyers;
- Government guarantees for loans;
- Construction subsidy grants to the shipbuilder;
- Government funds to finance scrapping of uneconomical ships and/or to reduce the overcapacity in shipbuilding facilities;
- Favorable tax and/or depreciation benefit schemes;
- Customs duty exemptions or rebates for imported materials used in ship construction; and
- Research and development funding to advance ship technology.

Favorable Financing - In general, low-cost financing--that is, loans offered by public and private banks for a substantial portion of a ship's cost, repayable over a long period of time at low rate of interest--has been favored by Japan (#1), Brazil (#4), and Denmark (#6), in recent years, with Brazil and Japan having utilized this method of assistance particularly heavily.

For example in FY 1987, Japan provided approximately $582.5 million in ship production loans. Of this, $518.5 million was funded through the Japan Development Bank for the purchase of highly modernized ships, and $64 million was for export credits through the Japan Export-Import Bank. Finland (#8) provides interest subsidy loans to Finnish shipowners as needed.

Subsidy Grants - The method of government aid for shipbuilding preferred in West Germany (#3), Spain (#5), and the Netherlands (#7) is to provide direct construction subsidies to shipyards for a percentage of the contract price. Although in theory, Germany limits its subsidies to 20 percent of the ship contract price; in practice, these grants have reached the 28% ceiling allowed by the Sixth Directive of the European Community (EC). Germany's 1988-1991 budget for shipyard subsidy grants is DM 700 million, which is approximately $372 million, funded two-thirds by the federal government and one-third from state governments.

Toward the end of 1987, Spain had reduced its shipyard subsidies to the EC's 28 percent maximum. The Netherlands (#7), in light of the subsidies allowed by the EC's Sixth Directive, created a new subsidy grant program funded at approximately $98 million for 1987 through 1989, replacing a program of decreasing subsidies that ended Jan. 1, 1987. Individual grant subsidies under the new program range from 3 to 14 percent.

Loans and Subsidies - Italy (#9) has been providing long-term loans and interest subsidies (about $97.4 million in 1986) to ship buyers as well as direct subsidy grants to shipyards (25%, 15%, and 11% depending on shipyard size in 1984-1986. Budget: about $500 million). Details of Italy's latest program were not available, although the country has said the new program will be within the guidelines of the Sixth Directive.

South Korea (#2) has also utilized favorable loans to ship buyers and the Korean government has alluded to subsidization of shipyards although details of the shipyard subsidies were not specified in the source materials used for this report. Even less information is available on Taiwan (#10), which has provided public financing for the four-year program of the Ministry of Communications for 32 ships and has claimed granting an unspecified amount of construction subsidies for ships ordered from and registered in Taiwan.

Government Guarantees - Denmark provides loan guarantees for ships ordered by Danish operators and for the construction or conversion of small freighters. Finland's guarantees cover losses caused by cost escalation during construction of export ships. In Germany, the coastal states may grant credit guarantees for ships built within their boundaries. Japan provides guarantees for debt payments related to the reduction of shipyard facilities (approximately $370.4 in FY 1987).

EXAMPLES OF GOVERNMENT FUNDING FOR SHIPYARD AID

Country	Purpose	Amount
JAPAN (#1)	a. Ship Production Loans, FY 1987 JDB for purchase of highly modernized ships (135 yen=$1)	$518,520,000
	Ex-Im Bank for export credit (125 yen=$1)	$ 64,000,000
	b. Shipyard Reorganization Aid, FY 1987 Govt. purchases of redundant docks, lands (135 yen=$1)	$222,222,000
	Govt. guarantees for debt payments related to yard facilities reductions	$370,370,000
WEST GERMANY (#3)	a. Ship Construction Subsidy Fund, FYs 1988-1991 (DM 700 million)	$372,000,000
	b. Loan Subsidies to Shipowners, For exports to developing countries, FYs 1987-1989	$258,600,000
	Interest-free loans for shipbuilding, FY 1987 fund (discont. 7/1/87)	$ 84,800,000
DENMARK (#6)	a. Loans to Shipowners, 1985 Govt. cost of home credits	$ 8,300,000
	Govt. cost of export credits	$ 42,200,000
	b. Minister of Industry Guarantees, 1986 Building of small cargo ships	$ 16,700,000
	Building of other ships	$ 69,800,000
	c. Other Ship Building Guarantees, 1986	$139,600,000
ITALY (#8)	a. Ship Construction Subsidy Fund, FYs 1984-1986	$500,000,000
	b. Interest Subsidies to Shipowners, FY 1986	$ 97,400,000
	c. Shipyard Reorganization Aid FYs 1984-86	$ 36,000,000

Shipyard Reorganization and Ship Scrapping Aid - Although Japan does not give subsidy grants to yards for ship construction, the government does provide aid for reorganizing, modernizing, or otherwise reducing shipyard capacity. In April 1987, the Japanese government established a five-year shipyard rationalization program, which provides for government purchases of redundant docks and land (FY 1987 funding: $222.2 million) and for government guarantees for debts associated with operational adjustments and retirement payments associated with shipyard reductions (FY 1987 funding: $370.4 million). Tax benefits are also provided.

From December 1978, Japan has provided financial assistance to scrap uneconomic oceangoing vessels as a method of reducing the world's over-supply of ships. Since 1986, however, the utilization of this funding has decreased as ship scrapping has becoming less popular, due in large measure to the extremely volatile nature of scrap prices.

Italy, which reorganized 90 percent of its shipyards into the publicly-owned FINCANTIERI between 1984-1986 and provided $36 million in aid, currently provides funding to shipyards equal to 20-30 percent of the investment costs for reorganization or conversion. Italy also proves government assistance for scrapping ships above 150 tons. Spain's government assistance program for ship scrapping has not been very successful, probably because its compensation rates were too low. Currently, West Germany provides shipyard modernization and conversion funding through the coastal states.

Ship R&D Funding - Government assistance for ship-related research and development is provided by the governments of Japan, West Germany, Denmark, the Netherlands, and Italy. In Japan, annual research funding is provided through the Ship Research Institute attached to the Ministry of Transport (MOT). In August 1988, it was reported that the MOT was ready to finance the prototype of a high speed ocean cargo vessel, which will cost approximately $44 million.

The most recent figure available concerning shipbuilding R&D funding from the government of Germany was approximately $16.2 million for 1986. Italy's shipbuilding and ship propulsion R&D contribution in that year was approximately $25.6 million. Denmark's ship research support amounts to about $.5 million annually. Ship research activities in the Nether- lands is funded on a 50:50 basis by the government and the maritime industry.

Tax Benefits - In nine of the top-ten ship-producing countries, shipbuilders have been exempted from customs duties for materials used in ship construction. The policy for the tenth country, the Netherlands, was not included in the source document used for this report.

Other tax reductions and exemptions for investing in ships vary from country to country. For shipowners, a major tax write-off is linked to depreciation. Advance write-offs for depreciation up to a certain percentage of the purchase price is currently allowed before the ship is delivered in South Korea, Finland. and Denmark. In addition to the regular depreciation allowed, special depreciation under certain conditions is allowed in Japan, Germany, and Denmark.

Another tax benefit allowed in Japan, Germany, Spain, Denmark, the Netherlands, Finland, and Italy is the availability of tax reserves for book profits on ships sold (or a substantial portion thereof). Japan, Spain, Denmark, the Netherlands, and Finland also allow other funds to be placed in tax reserve status.

The table on the following page summarizes the major kinds of benefits that assist shipyards in the free-world's top-ten shipbuilding nations. For purposes of comparison, the United States is also listed.

Immediately following the table, the categories of favorable financing, shipbuilding subsidy grants, and yard reorganization and ship scrapping aid are discussed in more detail. Finally, the appendix summarizes, in table form, the information used in the preparation of this report.

SUMMARY OF SHIPYARD-RELATED AID AVAILABLE
IN THE TOP-TEN SHIPBUILDING NATIONS AS COMPARED WITH THE UNITED STATES

Country	Shipowner Favorable Financing	Ship-Building Subsidies	Yard Reorg. Aid; Ship Scrapping	Ship R&D Funding	Tax Benefits	Import Duties Exempt.
1. JAPAN	Yes ***	Unknown	Yes **	Yes *	Yes	Yes
2. S.KOREA	Yes	Yes Unspeci-fied	Unknown	No	Limited	Yes
3. WEST GERMANY	Yes	Yes ***	Yes-reorg. Fed/ State	Yes	Yes	Yes
4. BRAZIL	Yes ***	Not Govt.	No	No	Unknown	Yes
5. SPAIN	Yes	Yes ***	Limited	No	Unknown	Yes
6. DENMARK	Yes	Yes **	No	Yes	Limited	Yes
7. NETHER-LANDS	N/A	Yes *	No	Yes	Limited	Unknown
8. ITALY	Yes **	Yes **	Yes	Yes	Yes	Yes
9. FINLAND	Yes	No	No	Unknown	Yes	Yes
10. TAIWAN	Yes	Yes Unspeci-fied	Unknown	No	Yes	Yes
UNITED STATES	No	No	No	Limited	Limited	Limited

*** of primary importance
** very important
* important

LOW-INTEREST, LONG-TERM FINANCING ENHANCES SHIPYARD COMPETITIVENESS

Most of the top-ten shipbuilding nations of the free world make available long-term, low interest loans to ship buyers for a substantial percentage of ship cost at a low rate of interest. The emphasis on this type of financial assistance, however, varies from country to country.

Member countries of the Organization for Economic Cooperation & Development (OECD) are supposed to subscribe to the provisions of the OECD Understanding on Export Credits for Ships, which limits loans for export ships to 80 percent of the ship, repayable at a maximum of 8½ years from delivery, at a minimum interest race of 8 percent per year. (Of course, if commercial rates are below 8 percent, then the commercial market would provide ship financing.)

According to a report in Shipping & Trade News, Sept. 2, 1987, Japan has repeatedly proposed that the OECD lower its credit terms to reflect lower worldwide interest rates, and an article in the Oct. 7, 1987, issue of the same magazine reported that Japan's Export-Import Bank had financed a contract last year between Hitachi Zosen and the Overseas Shipholding Group of the U.S. at 5 percent interest for two 260,000 dwt VLCCs. In general, however, Japan, Denmark, Italy, and Finland provide export credit terms at OECD rates. Germany offers 2 percent interest subsidies to bridge the gap with OECD rates.

Other kinds of ship financing with attractive terms offered in the world's top-ten ship producing nations are described below:

Japan (#1) - To encourage the construction of highly modernized oceangoing vessels such as containerships and LNG carriers, the Japan Development Bank (JDB) provides Japanese shipowners with 60 percent financing, repayable over 10 years after a 3-year grace period. The interest rate during the first part of 1988 was 5 percent. Private banks cover 20-40 percent of the ship's cost at the prime rate.

For other types of ships, the JDB provides 50 percent financing with commercial banks covering 25 percent. (JDB's financial resources are capital borrowings from the government and the capital market.) For Japan's FY 1987, the government provided $518.5 million through the JDB for the purchase of highly modernized ships, as well as funding $64 million in export credits through the Export-Import Bank.

South Korea (#2) - Loans to shipowners have been available in Korea to cover 90 percent of the shipbuilding cost (92 percent for a containership), with repayment for local funds (covering 70 percent of construction) at 10 percent interest over 8 years, with a 2½-year grace period. There are indications, however, that these programs are under review and have lead to reports of options ships cancelled by South Korean shipyards.

West Germany (#3) - Under certain conditions, West German shipowners can receive interest-free loans until 1990. In 1987, the West German government provided $84.8 million for this purpose. The government also provides interest subsidies (2 percent in 1987) for loans to build ships for export to developing countries. The 1987-1989 budget for this purpose is approximately $258.6 million.

Brazil (#4) - A number of financial packages offering extremely favorable terms is offered by Brazil to entice both local and foreign owners to buy Brazilian ships. One of these schemes features the buyer obtaining a foreign bank loan on which the Bank of Brazil pays the interest.

Spain (#5) - Loans are available to cover 85 percent of the cost, repayable in 12 years with a 2-year grace period. The minimum interest rate is 8 percent, except for fishing vessels, which is 11 percent.

Denmark (#6) - As a temporary measure to encourage ship orders at Danish and EEC yards, offered 80 percent credit for ships ordered by the end of 1986 and delivered before the end of 1989, with repayment at 8 percent over 14 years, including a 4-year grace period. Various Danish shipping firms own six big shipyards in Denmark that employ about 75 percent of the total shipbuilding labor force.

The Netherlands (#7) - The Dutch government can provide an interest subsidy when the need exists. From 1980 through 1985, for example, $267.8 million in interest subsidies was provided. Currently, because the market interest rate is below 8 percent, ship financing is a commercial matter tied to commercial financing.

Italy (#8) - Fifteen-year loans authorized by the appropriate Italian government office can be made for up to 70 percent by the Instituto Mobiliare Italiano and other financial institutions for the construction, modernization, and repair of ships. If the Italian government determines that a need exists, temporary incentives are provided to Italian shipowners to purchase ships. Since 1982, for example, Law 261 provides for interest subsidies of 2.75 to 3.2 percent over 12 years. Interest subsidy funds were approximately $97.4 million in 1986. (Approximately 90 percent of the shipbuilding in Italy is owned and operated by FINCANTIERI, a holding company in which IRI, an agency of the Ministry of State Holdings owns 100 percent of the stock.)

Finland (#9) - To promote the acquisition of small ships suited for inland and coastal transport or for foreign trade, Finland provides interest subsidies.

Taiwan (#10) - For the 4-year Ministry of Communications program in Taiwan for the construction of 32 ships, public financing is provided at 80 percent, repayable over 12 years at 8½ percent interest.

Government Guarantees

In addition to the favorable financing practices described above, governments in Japan, West Germany, Denmark, and Finland provide guarantees of various loans associated with shipbuilding.

As part of a comprehensive program to assist shipyards in reducing excess capacity, Japan guarantees payment of debts associated with the scrapping or reorganization of redundant building berths or docks at shipyards with 5000 grt or more capacity. Japan also has a credit guarantee program to aid shipowners in scrapping uneconomical ships.

Coastal states in West Germany may grant limited credit guarantees for the purchase of commercial ships built in their respective states.

The government of Denmark guarantees ship purchases by Danish shipowners (limited to $48 million in 1986, the most recent figures available), and guarantees up to $14 million per year for the construction or conversion of small freighters.

Finland provides government guarantees to cover losses caused by cost escalation during construction of export ships. In addition, Finland's State Guarantee Board may provide guarantees for the acquisition of ships less than 10 years old. Specific guarantee amounts vary with the individual shipowners, but the maximum guarantee fund is $417 million.

SHIPYARD SUBSIDY GRANTS IN THE WORLD'S TOP SHIP-PRODUCING NATIONS

EC Subsidy Policy - Within the European Community (EC), shipbuilding subsidies are intended to close the gap between EC shipbuilding prices and those of yards outside the EC -- primarily Far East yards. The EC's Sixth Directive, effective since January 1, 1987, sets a subsidy ceiling of 28 percent of the contract price of a new ship, if the contract price is over $ 6 million, and a 20 percent ceiling for a new build with a lower contract value. (Spain and Portugal, as new EC members, have a four-year exemption from the ceiling.) If several EC yards are competing for an order, the usual practice is for the Commission to apply the lowest level of state aid.

The subsidy policy contained in the Sixth Directive, which is in force until 1991 and is subject to annual revisions, includes direct aid to shipyards and some forms of indirect aid, such as investment aid to shipowners and tax incentives to investors. Not counted against the EC subsidy ceiling is aid for shipyard restructuring directed toward irreversible capacity reductions.

Unlike previous EC directives, the Sixth Directive does not require the progressive reduction in subsidies with the goal of eventual elimination; however, it does require the most complete reporting on state aids ever undertaken. These programs, now more transparent, will be the subject of an EC report to be issued later this fall.

West Germany (#3) - As the world's third-place ship-producing country and the leading EC shipbuilding nation, West Germany has made subsidies the primary focus for shipyard assistance in the construction of high technology vessels.

In general, Germany allows subsidies of up to 20 percent of the contract value when required to be competitive against other bidders, with two-thirds of the subsidy coming from the federal government and one-third from the state in which the shipyard is located. However, Germany will grant subsidies to the 28 percent level if needed for their shipyards to win the competition.

These subsidies are structured by the Ministry of Economic Affairs and are managed through a quasi-public sector agency known as the Credit Institute for Redevelopment. The 1988-1991 budget for direct aid is DM 700 million (approximately $371 million).

The EC Commission's Sixth Directive permits member states to exclude from the subsidy ceilings any aid provided to developing countries. Thus Germany has a second program, financed by the Ministry of Economic Cooperation, which has provided 25 percent subsidies to the HDW and Bremer Vulkan shipyards to win contracts for orders from Zim Israel and a Singapore-flag company. These subsidies were contingent on certification of Israel and Singapore as developing countries.

The federal government of Germany holds a 55 percent position in the HDW shipyard, with State Schleswig-Holstein holding a 26.1 percent position. Equity financing was not raised in private capital markets, but rather from appropriated funding sources.

Some of Germany's shipyards, all of which are managed as private enterprises, have extensive equity ownership by public sector authorities. The State of Breman owns 39 percent of the ordinary capital of a medium-size shipyard located within its territory. State Schleswig-Holstein owns 25 percent of a large shipyard, of which the remaining 75 percent is held by the joint stock company of a state-owned steel mill. In addition, the city of Flensburg holds 15.5 percent of the ordinary capital of a medium-size yard.

Spain (#5) - Spain's shipbuilding industry is owned by the government's National Institute for Industry (INI) but is run by three private companies. A relatively recent newcomer to the EC, Spain has been working toward reducing government subsidies to the 28 percent maximum contained in the EC's Sixth Directive. Toward the end of 1987, Spain limited direct subsidies for ships valued at over 14 million European Currency Units (ECUs) and at 19 percent for vessels valued at less than 6 million ECUs. Refits benefit from a 20 percent subsidy.

Denmark (#6) - Assistance in this country, in which the Danish shipping firms own six big shipyards that employ about 75 percent of the total shipbuilding labor force, favors financing schemes for shipowners rather than grants to shipyards.

The Netherlands (#7) - In 1980, the Dutch government budgeted for direct subsidies to the shipbuilding industry. Each year the amount budgeted for the subsidy fund was reduced. By the end of 1986, the Dutch government had intended to abolish this aid altogether.

During 1985 and 1986, a separate budget was set up for each yard that had succeeded in producing sea-going vessels during the 1981-83 reference period. Out of this budget, equal to .75 percent of the yard's average annual turnover during the reference period, production aid could be granted for 5-10 percent of the contract price.

The Dutch government had intended to abolish this aid program altogether by the end of 1986. However, because of the government subsidies allowed by the EC's Sixth Directive, the Dutch government decided to put a new program in places at the time information was being collected for the MARAD report.

Italy (#8) - Under a three-year program ending December 31, 1986, Italy provided direct subsidies for the construction and repair of ships at 25, 15, and 11 percent to small, medium, and large shipyards, respectively. Amounts budgeted for the program approximated $500 million. According to the U.S. Maritime Administration (MARAD) report dated June 1988, the Italians are drawing up a new text within the framework of EC regulations. (Shipyard reorganization aid is discussed in another section.)

Outside of the EC, two of the remaining five countries in the top ten--Japan (#1) and Finland (#9) do not provide government subsidies directly to shipyards for ship construction. (Aid from the Japanese government to reduce shipbuilding capacity is discussed in another section.)

Brazil (#4) levies a tax on shipping companies. These revenues go into a fund that is earmarked for the purchase, construction, and modernization of ships. That portion of the revenues allotted to the Merchant Marine Fund can provide 25 percent subsidies to Brazilian shipping companies for the purchase of Brazilian vessels.

Korea (#2) and Taiwan (#10) have provided government subsidies for ship construction, but information on specific subsidy practices by these governments was not available.

GOVERNMENT AID TO REDUCE SHIPYARD CAPACITY AND SCRAP UNECONOMICAL SHIPS

During the 1960s and into the 1970s, orders for new cargo ships--particularly tankers--were placed in record numbers. Shipyards worldwide geared up to fill the orders. In just a decade, the shipbuilding centers of Europe had increased capacity by 136 percent and Japan by 650 percent.

The "golden age of shipbuilding" was brought to a halt by the oil crisis and subsequent quadrupling of oil prices in the mid 1970s. This situation precipitated a significant decrease in the growth of seaborne trade, and the oversupply of tonnage throughout the world became apparent. Consequently, traditional shipbuilding centers of the world found themselves with too much shipbuilding capacity for the shrinking new-ship market. Further exacerbating the problem was the entry into the competitive world shipbuilding market of countries with extremely low labor rates, namely South Korea and Taiwan.

Shipyard Reorganization Aid

Reduction of shipbuilding capacity has been carried out with government assistance in some countries. In Italy (#8), for example, current shipyard reorganizations or conversions are assisted by government contributions that correspond to 20 percent of investments for medium-small shipyards and 30 percent for large shipyards. From 1984-1986, Italy carried out a restructuring plan which placed 90 percent of its shipyards into FINCANTIERI, a holding company in which IRI, an agency of the Ministry of State Holdings, owns 100 percent of the stock.

In West Germany (#3), federal programs have been supplanted by state-sponsored programs. Currently, the coastal states fund approximately one-third to one-half of the costs associated with various shipyard rationalization efforts, ranging from modernization to diversification to shipyard closings, within their respective boundaries.

Japan (#1) probably has the world's most comprehensive government-assisted shipyard modernization and rationalization programs aimed at reducing its vast overcapacity. Although Japan has been the leading ship-producing nation in the world for over 20 years, shipbuilding is still a depressed industry in this country, which has had to contend with rising labor costs and appreciation of its currency (the yen), as well as the general market slump.

Government and private shipyards in Japan have been involved in a working partnership since the inception of the shipbuilding industry. An advisory council to the Ministry of Transportation (MOT), established in 1952, is made up of representatives from the shipping, shipbuilding, ship machinery, and steel industries, labor, educational institutions, and the press. Called the Council for Rationalization of the Shipping and Shipbuilding Industries (CRSSI), it has helped shape all of the major government policies related to shipbuilding, including the current shipyard modernization and rationalization effort.

Other industry associations have also been actively involved in shaping government policies and practices. Furthermore, the Japan Fair Trade Commission has allowed its major shipbuilders (24 yards with build-

ing capacity of 10,000 or more gross tons) to form a cartel, the goal of which is to limit ship production. In March 1988 the major shipyards reorganized from 44 (21 groups) into 26 (8 groups).

Under current law, funding has been established until April 1992 for the Japanese government to purchase redundant facilities and lands from shipyards with 5,000 or more grt capacity and to guarantee debts resulting from shipyard reorganizations. In addition, special tax reductions and exemptions have been granted.

Ship Scrapping Aid

The corollary to the reduction of the shipyards' physical facilities is the reduction in the world's oversupply of ships. The government of Japan in particular has provided financial incentives to shipowners to scrap large, uneconomic vessels. Italy also has provided subsidies for scrapping tonnage, and to a lesser extent, Spain. However, ship scrapping has not been very popular during the past couple of years, largely because of the instability of scrap metal prices.

In Spain, the low rate of government compensation ($9.50 per dwt for non-bulk vessels) probably contributed to the low volume of scrapped tonnage. In Italy, government funding for ship scrapping was established by law in 1984, at a rate of $36-$72 per ton for ships above 150 tons. The subsidy amount is in inverse proportion to the age of the vessel scrapped, tonnage scrapped must be at least twice that of tonnage to be built.

In FY 1978, the government of Japan instituted a subsidy program to scrap primarily uneconomic oceangoing vessels, providing financial assistance at approximately $9-11 per grt, raised to approximately $16-18 per grt in 1983. From December 1978 to October 1985, about 3 million grt was scrapped under this program. In 1986, a law was passed to establish new aid for scrapping efforts. In addition, a government guarantee fund was set up to remove existing mortgages on ships to be scrapped and to pay retirement allowances for seafarers employed on these ships. The guarantees will be in effect until August 1991.

Japan also has a program for owners of coastal vessels, whereby uneconomical vessels can be scrapped and new ones built. Ownership is held jointly with the government's Maritime Credit Corporation, which pays 70-80 percent of the construction cost. The shipowner pays a fee to use the vessel during the joint ownership period, which is from 7 to 15 years.

SUMMARY AND CONCLUSIONS

Since the mid-1970s, a variety of government assistance programs were instituted by nations anxious to preserve their shipbuilding capability. By 1981, however, it was already becoming clear that government intervention alone would not save shipyards, although it might extend some of their lives.

Today we have concrete examples that a yard's chances of survival do not necessarily increase in proportion to the amount of government assistance it receives. Sweden's shipbuilding industry, for instance--once second only to Japan and one of the most heavily subsidized--is virtually gone today. Great Britain's yards are another example. Nationalized in 1977, they have lost so much money that the government has adopted a privatization program to sell them off.

On the other hand, it has become just as clear that it is impossible for shipyards that receive no government support to compete successfully against those that do. Hans-Jakob Kruse, Chairman, Hapag-Lloyd AG, Hamburg, West Germany, expressed this reality thusly in a guest editorial published in The Journal of Commerce (Aug. 12, 1988):

> "The idea of removing competitive anomalies by reducing subsidies to zero is quite appealing . . . However, things are not quite that simple. Although there are many differences in political and commercial systems, countries nowadays are closely intertwined commercially, leaving little room for positive unilateral actions. It would certainly be a bold gesture if a country were to abolish all its subsidies, but the only result would be that its industry would henceforth be at a competitive disadvantage vs. its subsidized competitors."

The shipbuilding industry in the United States offers a vivid illustration of Mr. Kruse's premise. In 1981, when governments in Europe and the Far East were providing their shipyards with direct and indirect subsidies ranging from 10 to over 60 percent, the United States moved to discontinue funding of shipbuilding assistance programs contained in the Merchant Marine Act of 1936, including Construction-Differential Subsidies (CDS), Capital Construction Fund (CCF), Mariner Program (build and charter), and Title XI federal ship mortgage insurance.

As a result, the U.S. shipbuilding industry, forced to compete against heavily-subsidized foreign yards in an environment of unfair trade practices, has been devastated. From January of 1982 to the present, more than 75 shipyards or ship repair facilities have closed and over 52,500 production worker jobs have been lost.

It is no coincidence that shipyards in the world's leading ship-producing countries receive substantial government support. The objective of this report has been to quantify the kinds of assistance which have significantly contributed to the ability of these shipbuilders to capture the most ship construction orders.

A P P E N D I X

TABLE 1A

SPECIAL FINANCING FOR SHIPBUILDING IN "TOP TEN" SHIP-PRODUCING NATIONS

Country	Loan Type
JAPAN (#1)	a. Loans to Japanese shipowners o For highly modernized ships: from govt.-sponsored shipbuilding program through Japan Development Bank (JDB), 60% financing at 5% interest (early 1988 rate) with repayment over 10 yrs. after 3-yr. grace period, plus 20% from private bank at prime rate (early 1988 rate, 5.5%) payable over 8 yrs. after delivery. o For other ships: 50% JDB financing plus 25% commercial bank financing, same terms and interest as above. o FY 1987 JDB loan fund: $518.52 mil. (@135 yen=$1). b. Export credit loans o 35% Export-Import Bank/35% private bank loans to Japanese shipyards for 8.5 years after ship completion, at approx. 8% interest. Same terms must be given by shipyard to shipowner, with 20% paid at delivery. o FY 1987 Ex-Im Bank loans avail. to Japanese Ministry of Transport: $64 mil. (@125 yen=$1). c. Loans for shipyard restructuring For 10 yrs. at 5% interest (2/88 rate).
S. KOREA (#2)	a. Loans to shipowners cover 90% shipbuilding cost (92% for containership) with repayment for local funds (covering 70% of construction) at 10% interest over 8 yrs. with 2.5 yrs. grace. b. Export loans to foreign shipowners or Korean exporters for up to 56% from Korean Export-Import Bank, with repayment over 8 yrs. at 9% interest, and loans from other banks for up to 24% with repayment over 5 yrs. at interest based on London Interbank Offered Rate (LIBOR).
W. GERMANY (#3)	a. Loan subsidies to shipowners o Interest free loans under certain conditions. Available until 1990. 1987 funding: $84.8 million. o 2% interest subsidies allowed for export ships to developing countries to bridge gap with OECD rates. 1987-1989 budget: $258.6 million.

TABLE 1A (Cont'd)
SPECIAL FINANCING FOR SHIPBUILDING IN "TOP TEN" SHIP-PRODUCING NATIONS

Country	Loan Type
BRAZIL (#4)	a. Ship export financing o Alt. 1: Buyer pays 10% down during construction and receives 90% loan from Bank of Brazil Foreign Exchange Section (CACEX) payable over 10 yrs. (with 1-yr. grace period) at 8.5% interest. o Alt. 2: Buyer obtains foreign bank financing with Bank of Brazil paying the 8.5% (or more if interest increases) over 10 yrs. o Current terms of CACEX export credit financing for foreigners: 15-20% down, 8% annual interest, 8 yrs. to pay (1-yr. grace period after delivery). b. Govt. loans to Brazilian shipping lines up to 85% of ship cost repayable over 15 years at 5-10% interest. c. Merchant Marine Fund (FMM) financing: o 90% loans available to Brazilian shippers for vessels constructed in Brazilian shipyards. o Up to 80% available to foreign carriers for purchase of Brazilian ships.
SPAIN (#5)	a. Loans to Spanish shipowners o Ship construction loans (except for tankers and bulkers) available from the Construction Credit Bank (BCC) and private banks for 80% of price at 8% interest, repayable in 12 yrs. with 2-yr. grace period. b. Ship conversion & repair loans to Spanish shipowners o Available from the BCC at 70% of the value at 8% interest for 5 yrs. with 1-yr. grace period. c. Export Credit for Ships The Banco Exterior and private banks provide export loans for 70% of the contract price for 7 yrs. at 6.9% plus various charges adding up to a gross rate of 8%.
DENMARK (#6)	a. Loans to shipowners from Ship Credit Fund o May not exceed 50% of ship value unless supported by supplemental security. Applies to foreign and Danish owners for ships built in Danish yards. Same rates to Danish owners for EC country-built ships. o Home credit fund, $418.7 mil; govt. cost, $8.3 mil.

TABLE 1A (Cont'd)
SPECIAL FINANCING FOR SHIPBUILDING IN "TOP TEN" SHIP-PRODUCING NATIONS

Country	Loan Type
DENMARK (Cont'd.)	b. Export credit for ships from Ship Credit Fund o OECD Understanding* export credit terms for foreign flag ships built at Danish yards for Danish citizens. o 1985 govt.-supported export credit costs, $42.2 M. c. Loans to shipowners, temporary measure 80% credit, repayment at 8% interest over 14 yrs., incl. 4-yr. grace period, for ships ordered from Danish or EC yards by end of 1986 and delivered before end of 1989. Supp. credit if required to buyers outside Denmark.
NETHERLANDS (#7)	a. Interest subsidies for shipowner loans Interest subsidy provided for; but current market interest rate is below 8%. 1980 through 1985, $267.8 M provided. b. Export credits for ships OECD Understanding export credit terms to foreign owners for ships built in Dutch yards.
ITALY (#8)	a. Loans and interest subsidies o Loans up to 70% made by the Instituo Mobiliare Italiano and other financial institutions for the construction, modernization, and repair of ships and authorized by the appropriate Italian govt. office, are repayable in 15 yrs (since May 1987). o Italian shipowners are allowed interest contributions of 2.75% of the contract price over 12 years; 3.2% interest for ships of less than 5,000 grt if used for transport of liquid bulk or liquefied gas or to 3,000 grt for all other units (since June 1982). Interest subsidy funds were approximately $97.4 million in 1986. b. Export credit Financing follows OECD Understanding terms.
FINLAND (#9)	a. Loans to Finnish shipowners (home credit) o Central Bank of Finland financing available to Finnish shipowners, ordering new or converted ships at Finnish yards, for 80% of ship cost, repayable over 8 yrs. 1987 interest rate: 8.5%.

*Organization for Economic Cooperation & Development Understanding on Export Credits for Ships: 80% (max.) credit, repaid in equal semiannual installments over 8½ yrs. (max.) from delivery, at 8% (min.) per year.

TABLE 1A (Cont'd.)
SPECIAL FINANCING FOR SHIPBUILDING IN "TOP TEN" SHIP-PRODUCING NATIONS

Country	Loan Type
FINLAND (Cont'd.)	b. Export credit Financing through the govt.-controlled Finnish Export Credit Ltd. at OECD Understanding rates. c. Interest subsidy loans Loans to Finnish shipowners for ships built in Finnish shipyards for domestic or foreign commerce generally at OECD-established rates. However, interest rates may be subsidized to match subsidies in other countries; e.g., 2% subsidies, so interest rate is 6% instead of OECD rate of 8%.
TAIWAN (#10)	4-yr. Ministry of Communications program for 32 ships Govt. providing public financing at 80% repayable over 12 yrs. at 8.5% annual interest.

TABLE 2A

GOVERNMENT GUARANTEES OF SHIPBUILDING LOANS IN TOP SHIP-PRODUCING NATIONS

Country	Description of Government Guarantee
JAPAN (#1)*	Govt. guarantees payment of debts associated with the scrapping or reorganization of redundant building berths or docks at shipyards with 5,000 grt or more capacity. FY 1987 budget: $370,370 mil. (@135 yen=$1).
W.GERMANY (#3)	Coastal states may grant limited credit guarantees for purchase of commercial ships if credits cannot be secured by ship mortgages.
DENMARK (#6)	Minister of Industry guarantees o Issued for building of small cargo ships. 1983 through 1986, each year: $16.7 million. o Other ships, 1986 total: $69.8 million. Other government guarantees o Up to $48 million in 1986 for ships ordered by Danish shipowners. o Up to $14 million per yr. for construction or conversion of small freighters. o Total of $139.6 million for 1986.
FINLAND (#9)	o Govt. guarantees covering losses caused by cost escalation during construction of export ships. o Guarantees from State Guarantee Board may be provided for acquisition of ships less than 10 yrs. old built at home or abroad. Specific guarantee amounts vary with shipowners. $417 million max.

*Does not include Japan's credit guarantee program to shipowners for ship scrapping.

TABLE 3A

CONSTRUCTION SUBSIDY GRANTS TO YARDS IN THE TOP SHIP-PRODUCING NATIONS

Country	Description of Subsidy*
S. KOREA (#2)	Specific subsidy amounts not reported. However, in 1976 the Korean govt. proclaimed that, where possible, all new ships for the Korean merchant fleet would be built in Korean yards with govt. subsidization of shipowners and shipyards.
W. GERMANY (#3)	o 1988-1991 direct aid subsidy fund is DM 700 million (about $372 million). o Subsidy max: 20% of contract price, 2/3 from federal govt. and 1/3 from state in which yard is located. (However, Germany will grant subsidies up to the European Community's Sixth Directive** ceiling of 28% if needed to win a contract.) o Subsidies to developing countries not subject to above ceiling. Recently, Israel and Singapore were classified as developing countries, and on this basis, the German government granted 25% subsidies to two German shipyards.
BRAZIL (#4)	Revenues from the Freight Additional for Renewal of the Merchant Marine (AFRMM) fund are earmarked for purchase, construction, and modernization of ships. This fund comes from a tax levied on shipping companies. [That portion of the revenues allotted to the Merchant Marine Fund (FMM) can provide 25% subsidies to Brazilian shipping companies for the purchase of Brazilian vessels.]
SPAIN (#5)	Subsidy maximums: o 28% for ships over 14 million European Currency Units (ECUs), o 19% for value under 6 million ECUs, and o 20% for refits.

* Does not include reorganization/modernization/conversion subsidies for shipyards, scrap or scrap and build subsidies, or tax incentives.

** Subsidy guidelines as set forth by the European Community Commission in the Sixth Directive set a top limit of 28% of the contract price for a ship valued at over $6 million and a 20% ceiling for a ship valued at under $6 million. The subsidy policy is effective until 1991 and is subject to annual revisions. There are no subsidy ceilings for aid provided to a developing country by an EC member.

TABLE 3A (Cont'd.)
CONSTRUCTION SUBSIDY GRANTS TO YARDS IN THE TOP SHIP-PRODUCING NATIONS

Country	Description of Subsidy
NETHERLANDS*** (#7)	1980 through 1986: Program of gradually decreasing subsidies. Total funding, approx. $464 million. Because of EC subsidy guidelines, a new aid program created for 1987 through 1989.
ITALY (#8)	1984-86 program: 11%, 15%, and 25% subsidies, depending on shipyard size. New program will be within EC guidelines. Funding: approx. $500 million.
TAIWAN (#10)	Unspecified amount of construction subsidies granted for ships ordered from Taiwan and registered in Taiwan.

*** Does not include the fleet modernization program of the Dutch government, which granted a premium of 5 x 2.1% of the contract price to Dutch shipowners ordering new sea-going merchant vessels. Premiums granted by Dutch government under new fleet modernization program as of 1987.

TABLE 4A
AID FOR SHIPYARD REORGANIZATION & SHIP SCRAPPING PROGRAMS
AMONG THE TOP SHIPBUILDING NATIONS

Country	Description of Aid
JAPAN (#1)	a. 5-yr. shipyard rationalization aid (4/87 law) o Govt. guarantees for payment of debts related to scrapping/reorganizing redundant docks/facilities at shipyards with 5,000 or more grt capacity. FY 1987 funding: $370,370 mil. (@135 yen=$1). o Govt. purchases of part of redundant facilities and lands at shipyards with 5,000 grt capacity. FY 1987 funding: $222,222 mil. (@135 yen=$1). o Tax exemption of 10% of capital investment to convert to different industry and other tax benefits. b. Ship scrapping aid o 12/78-10/85: Govt. assistance to shipbuilders to scrap mainly uneconomic oceangoing vessels (2,500 grt or over) started at approx. $9-11 per grt, raised to approx. $16-18 per grt in 1983. (3 million grt scrapped under this program. Cost: approx. $40.5 million.) New funding in 1986. Also a govt. guarantee program until 8/91. o Owners may scrap uneconomic coastal vessels and build new ones for joint ownership with govt.-owned Maritime Credit Corporation, which pays 70-80% of construction cost. Private shipowner pays fee to use vessel during joint ownership period of 7-15 yrs.
W.GERMANY (#3)	a. Shipyard reorganization Some federal aid provided in past yrs., e.g., $9.5 million in 1983 and 4.5 million in 1985. As of 2/87, coastal states providing aid for rationalization, modernization, conversion, diversification of shipyards within their respective boundaries.
SPAIN (#5)	a. Ship scrapping Govt. scheme as of 5/30/86 provided low rate of compensation ($9.50 per dwt for non-bulk vessels); therefore, not taken advantage of.
ITALY (#8)	a. Shipyard reorganization 1984-86 restructuring plan carried out through reorganization of 90% of shipyards into publicly-owned FINCANTIERI holding company. Funding: approx. $36 mil. Current funding equal to 20-30% of investment required for shipyard reorganization or conversion. b. Ship scrapping Govt. assistance of between 50,000-100,000 lire ($36-72) per ton provided for ships above 150 tons that are demolished (Law 848, 10/84).

TABLE 5A

RESEARCH & DEVELOPMENT FUNDING PROGRAMS OF TOP SHIPBUILDING NATIONS

Country	R&D Funding Program
JAPAN (#1)	o Ship Research Institute, attached to the Ministry of Transport, has annual research funding. FY 1986 budget: approx. $4.7 million. o 1987 and 1988 budgets not known. However, one known 1988-89 project is the development of a 7 billion yen (approx. $44 million) prototype of a high-speed cargo ship.
W.GERMANY (#3)	The federal govt. contributes funds to research projects related to shipbuilding and offshore. Contributions in 1985 were approx. $13.2 million and in 1986, $16.2 million.
DENMARK (#6)	Financial support to institutions engaged in shipbuilding research amounts to about $.5 million a year.
NETHERLANDS (#7)	Research activities are financed on a 50:50 basis by the Dutch government and the maritime industry.
ITALY (#8)	The Italian government contributes to research activities related to shipbuilding and ship propulsion, including prototype R&D 1986 contribution: approx. $25.6 million.

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